



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,548	03/15/2002	Jihoon Chang	58049-00002	6655

7590 11/05/2002

Joseph Hyosuk Kim
Squire Sanders & Dempsey
14th Floor
801 South Figueroa Street
Los Angeles, CA 90017-5554

EXAMINER

HADDAD, MAHER M

ART UNIT PAPER NUMBER

1644

DATE MAILED: 11/05/2002

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,548

Applicant(s)

CHANG ET AL.

Examiner

Maher M. Haddad

Art Unit

1644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-19 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

2. In accordance with 37 CFR 1.499, applicant is required, in response to this action, to elect a single invention to which the claims must be restricted.

- I. Claims 1 and 17, drawn to LK6 protein comprising amino acid sequence of human polipoprotein(a) kringle domains IV36 and an anticancer agent comprises IV36 Kringle.
- II. Claims 2 and 17, drawn to LK7 protein comprising amino acid sequence of human polipoprotein(a) kringle domains IV37 and an anticancer agent comprises IV37 Kringle.
- III. Claims 3 and 17, drawn to LK8 protein comprising amino acid sequence of human polipoprotein(a) kringle domains V38 and an anticancer agent comprises IV38 Kringle.
- IV. Claims 4 and 17, drawn to LK68 protein comprising amino acid sequence of human polipoprotein(a) kringle domains IV36, IV37 and V38 in a serial manner and an anticancer agent comprises kringle domains IV36, IV37 and V38 in a serial manner.
- V. Claims 5, 9 and 13, drawn to a cDNA sequence which codes for the LK6 protein, a recombinant expression vector pET15b/LK6 and *Escherichia coli* transformed with pET15b/LK6.
- VI. Claims 6, 10 and 14, drawn to a cDNA sequence which codes for the LK7 protein, a recombinant expression vector pET15b/LK7 and *Escherichia coli* transformed with pET15b/LK7.
- VII. Claims 7, 11 and 15, drawn to a cDNA sequence which codes for the LK8 protein, a recombinant expression vector pET15b/LK8 and *Escherichia coli* transformed with pET15b/LK8.
- VIII. Claims 8, 12 and 16, drawn to a cDNA sequence which codes for the LK68 protein, a recombinant expression vector pET15b/LK68 and *Escherichia coli* transformed with pET15b/LK68.
- IX- XII. Claims 18-19, drawn to a method for treating angiogenesis-mediated disease which comprises administering therapeutically effective amount of LK68 protein, its single

Art Unit: 1644

kringles of LK6, LK7 and LK8 **respectively**, or their functional equivalents to a human or animal wherein the angiogenesis-mediated disease is cancer.

XIII-XVI. Claims 18-19, drawn to a method for treating angiogenesis-mediated disease which comprises administering therapeutically effective amount of LK68 protein, its single kringles of LK6, LK7 and LK8 **respectively**, or their functional equivalents to a human or animal wherein the angiogenesis-mediated disease is rheumatoid arthritis.

XV-XVIII. Claims 18-19, drawn to a method for treating angiogenesis-mediated disease which comprises administering therapeutically effective amount of LK68 protein, its single kringles of LK6, LK7 and LK8 **respectively**, or their functional equivalents to a human or animal wherein the angiogenesis-mediated disease is psoriasis.

XIX-XXII. Claims 18-19, drawn to a method for treating angiogenesis-mediated disease which comprises administering therapeutically effective amount of LK68 protein, its single kringles of LK6, LK7 and LK8 **respectively**, or their functional equivalents to a human or animal wherein the angiogenesis-mediated disease is ocular angiogenic disease.

3. The inventions listed as Groups I-XXII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The invention of Group II was found to have no special technical feature that defined the contribution over the prior art of Mikol *et al* (J Mol Biol. 256(4):751-61, 1996) (see entire document).

Mikol *et al* teach a human apolipoprotein(a) (apo(a)) kringle type IV37 (K4₃₇) (see abstract and introduction page 751 in particular). While the prior art teachings may be silent as to the "LK7" per se; the product used in the reference is the same as the claimed product.

Since Applicant's inventions do not contribute a special technical feature when viewed over the prior art they do not have a single general inventive concept and so lack unity of invention.


4. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Art Unit: 1644

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maher Haddad, whose telephone number is (703) 306-3472. The examiner can normally be reached Monday to Friday from 8:00 to 4:30. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached at (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-0196.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-3014.

Maher Haddad, Ph.D.
Patent Examiner
Technology Center 1600
October 26, 2002


CHRISTINA CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600